What is claimed:

1. A method of treating disease tissue in a human through the application of a specific and selective electric or electromagnetic field to the disease tissue in the human, comprising the steps of:
   a. Determining the voltage and current output that produces a 20 mV/cm electric field in the diseased tissue of the human;
   b. Constructing an anatomic model of human diseased tissue showing all the pertinent tissues and structures through which the current passes between the skin overlying one side of the diseased tissue through the skin on the opposite side of the diseased tissue;
   c. Constructing an analytic model of the diseased tissue from which size parameters are determined for each of the tissues and structures through which the current passes between the anterior and posterior skin surfaces enclosing the diseased tissue;
   d. Constructing a planar circuit model of the diseased tissue giving the impedance and current flow in detail of all the structures and tissues through which the current must flow to achieve a 20 mV/cm electric field in the diseased tissue;
   e. Computing the electric field amplitude (20 mV/cm) in the diseased tissue as equal to the targeted diseased tissue current density divided by the targeted diseased tissue conductivity; and
   f. Applying the computed voltage and current to the diseased tissue of the human.

2. The method of claim 1 wherein the computed voltage and current applying step comprises the step of applying the computed voltage and current to the human using two electrodes in the case of capacitive coupling.

3. The method of claim 1 wherein the computed voltage and current applying step comprises the step of applying the computed voltage and current to the human using a solenoid or coil(s) in the case of inductive coupling.

4. The method of claim 1 wherein the voltage and current output determining step comprises the step of determining the voltage and current output that produces a 20 mV/cm electric field in the tissues of the diseased human hip.

5. The method of claim 4 wherein the anatomic model constructing step comprises the step of constructing an anatomic model of the human hip.

6. The method of claim 5 wherein the step of constructing an anatomic model of the diseased tissue comprises the step of constructing an analytic model of the diseased human hip from which size parameters are determined for each of the tissues and structures through which the current passes between anterior and posterior skin surfaces enclosing the human hip.

7. The method of claim 6 wherein the step of constructing the planar circuit model comprises the step of constructing a planar circuit model of the human hip in order to determine the circumferential flow of current through a fat layer, a leakage flow of current through muscle and other soft tissue, and current flow across and through the human hip.

8. The method of claim 7 wherein the step of constructing the planar circuit model comprises the step of constructing a planar circuit model of the human hip giving the impedance and current flow of all the tissues and structures through which the current must flow to achieve a 20 mV/cm electric field in the human hip.

9. The method of claim 8 wherein the step of computing the electric field amplitude comprises the set of computing the desired electric field amplitude (20 mV/cm) in the diseased human hip as equal to the current density in the tissues of the hip divided by the conductivity of the tissues in the hip.

10. The method of claim 1 wherein the computed voltage and current are applied to a diseased human hip.

11. A device for treating diseased tissue in the human hip joint through the application of a specific and selective electric or electromagnetic field to the diseased or injured tissue in the human hip joint comprising:

    a. one of (a) at least two electrodes, in the case of capacitive coupling, adapted for application in the proximity of a patient's hip joint; and (b) a solenoid or at least

one coil, in the case of inductive coupling, adapted for application in the proximity of a patient's hip joint; and

b. a signal generator that generates electric signals for application to the electrodes, the solenoid, or at least one coil so as to produce an electric field of approximately 20 mV/cm ± 15% and a current density range of approximately 120 $\mu A/cm^2$ ± 15% within the synovium and articular cartilage of the patient's hip joint.

12. A device for treating osteoarthritis, cartilage defects due to trauma or sports injury, or used as an adjunct with other therapies for treating cartilage defects in a human hip joint through the application of specific and selective electric or electromagnetic field to the afflicted tissue in the human hip joint, comprising:

a. one of (a) at least two electrodes on the surface of the skin and (b) a solenoid or at least one coil located external to the skin adapted for application in the proximity of a patient's hip joint; and

b. a signal generator that generates electric signals for application to the electrodes, the solenoid, or at least one coil so as to produce an electric field of approximately 20 mV/cm ± 15% and a current density range of approximately 120 $\mu A/cm^2$ ± 15% within the synovium and articular cartilage of the patient's hip joint.

13. A device as in claim 12, wherein the signal generator provides one of the plurality of output electric signals in accordance with a size of the human hip joint and its surrounding soft tissue and skin.

14. A device as in claim 13, wherein one of the plurality of output electrical signals of the signal generator for a 60 kHz frequency has a voltage of approximately 4.3 V_{p-p} ± 10% for a small size hip joint.

15. A device as in claim 13, wherein one of the plurality of output electrical signals of the signal generator for a 60 kHz frequency has a voltage of approximately 4.5 V_{p-p} ± 10% for a medium sized hip joint.

16. A device as in claim 13, wherein one of the plurality of output electrical signals of the signal generator for a 60 kHz frequency has a voltage of approximately 5.7 V_{p-p} ± 10% for a large sized hip joint.

17. A device as in claim 13, wherein one of the plurality of output electrical signals of the signal generator for a 60 kHz frequency has a voltage of approximately 10.2 V_{p-p} ± 10% for a extra large sized hip joint.

18. A method of treating osteoarthritis in a human knee joint through the application of a specific and selective electric or electromagnetic field to the diseased tissue in the human knee joint, comprising the steps of:

converting electric potential into an electric signal that when applied to one of (a) at least two electrodes on the surface of the skin and (b) a solenoid or at least one coil located external to the skin adapted for application in the proximity of a patient's hip joint, an electric field of not less than approximately 20 mV/cm ± 15% is produced and a current density of not less than approximately 120 $\mu A/cm^2$ ± 15% is produced within the synovium and articular cartilage of the patient's hip joint; and

applying the electric signal to the at least two electrodes, solenoid or coil so as to produce the electric field within the synovium and articular cartilage of the patient's hip joint.

19. A method as in claim 18, comprising the additional step of selecting one of a plurality of output electric signals with a voltage in accordance with a size of the human hip joint.

20. A method as in claim 19, wherein the selecting step comprises the step of selecting an electrical signal having a voltage of approximately 4.3 V_{p-p} ± 10% for a small size hip joint.

21. A method as in claim 19, wherein the selecting step comprises the step of selecting an electrical signal having a voltage of approximately 4.5 V_{p-p} ± 10% for a medium sized hip joint.

22. A method as in claim 19, wherein the selecting step comprises the step of selecting an electrical signal having a voltage of approximately 5.7 V_{p-p} ± 10% for a large sized hip joint.

23. A method as in claim 19, wherein the selecting step comprises the step of selecting an electrical signal having a voltage of approximately 10.2 V_{p-p} ± 10% for a extra large sized hip joint.